

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/002317

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 H01M8/24 H01M8/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|---------------------------------------|
| X | PATENT ABSTRACTS OF JAPAN vol. 1997, no. 08, 29 August 1997 (1997-08-29) & JP 9 092324 A (TOYOTA MOTOR CORP), 4 April 1997 (1997-04-04) paragraphs '0034!, '0037! figures 1-6 | 1-4, 8-11, 14, 15, 18, 20-22 |
| Y | | 7, 12 |
| X | DE 100 49 801 A (TOYOTA MOTOR CO LTD) 26 April 2001 (2001-04-26) figures 1, 13-20 | 1-5, 7-10, 14, 15, 18, 20-22 |
| | ----- -/-- | |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

15 November 2004

Date of mailing of the international search report

24/11/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

Jacquinet, P

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/002317

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|---|
| X | DE 196 45 111 A (AEG ENERGIE-TECHNIK GMBH) 7 May 1998 (1998-05-07) the whole document | 1-3, 5, 7, 8, 11, 15, 16, 18, 20, 21 |
| X | US 4 176 213 A (VAN LINDEN JACQUES) 27 November 1979 (1979-11-27) column 4, last paragraph figure 1 | 1-6, 8, 20 |
| Y | US 5 824 199 A (NEWMAN JOHN SCOTT ET AL) 20 October 1998 (1998-10-20) column 12, lines 12-48 figures 3, 5, 6 | 12 |
| Y | GB 2 336 937 A (BRITISH GAS PLC) 3 November 1999 (1999-11-03) figures 13, 14 | 7 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP2004/002317

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|---|---------------------|--|--|
| JP 9092324 | A | 04-04-1997 | NONE | |
| DE 10049801 | A | 26-04-2001 | JP 2001110439 A JP 2001155761 A DE 10049801 A1 US 6653008 B1 | 20-04-2001 08-06-2001 26-04-2001 25-11-2003 |
| DE 19645111 | A | 07-05-1998 | DE 19645111 A1 | 07-05-1998 |
| US 4176213 | A | 27-11-1979 | BE 868387 A2 CA 1091761 A1 DE 2828397 A1 ES 471177 A1 FR 2396426 A1 GB 2000626 A ,B IT 1105375 B JP 54011451 A NL 7806823 A SE 7807343 A | 27-12-1978 16-12-1980 11-01-1979 16-01-1979 26-01-1979 10-01-1979 28-10-1985 27-01-1979 03-01-1979 12-02-1979 |
| US 5824199 | A | 20-10-1998 | US 5411641 A US 5580437 A AU 4421496 A WO 9635006 A1 AU 7673294 A AU 7673394 A BR 9408169 A CA 2177133 C CA 2177134 A1 CN 1141656 A ,B DE 69419433 D1 DE 69419433 T2 EP 0730675 A1 EP 0730676 A1 ES 2135596 T3 JP 2841868 B2 JP 9503553 T JP 9505636 T RO 115180 B1 TW 490437 B US RE37042 E1 US RE36985 E WO 9514796 A1 WO 9514797 A1 US 6203675 B1 US 6180163 B1 US 5622614 A US 5618393 A US 5622609 A US RE37433 E1 US 5798036 A US 6042702 A US 5961795 A US 5976346 A US 5855748 A US 6010612 A US 5855759 A US 5868912 A | 02-05-1995 03-12-1996 21-11-1996 07-11-1996 13-06-1995 13-06-1995 26-08-1997 26-12-2000 01-06-1995 29-01-1997 12-08-1999 25-11-1999 11-09-1996 11-09-1996 01-11-1999 24-12-1998 08-04-1997 03-06-1997 30-11-1999 11-06-2002 06-02-2001 12-12-2000 01-06-1995 01-06-1995 20-03-2001 30-01-2001 22-04-1997 08-04-1997 22-04-1997 06-11-2001 25-08-1998 28-03-2000 05-10-1999 02-11-1999 05-01-1999 04-01-2000 05-01-1999 09-02-1999 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB2004/002317

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|---|---------------------|----------------------------|---------------------|
| US 5824199 | A | US 5863395 A | 26-01-1999 |
| | | ZA 9406656 A | 29-02-1996 |
| | | ZA 9406657 A | 29-02-1996 |
| GB 2336937 | A | AU 3613999 A | 23-11-1999 |
| | 03-11-1999 | CA 2330946 A1 | 11-11-1999 |
| | | WO 9957781 A1 | 11-11-1999 |